

**C. REMARKS****1. Rejections under 35 U.S.C. § 103**

In the Non-Final Action dated September 22, 2005, the Examiner rejected Claim 1 as being obvious on the basis of USPN 5,933,627 (Parady) in view of Steve Furber's ARM System-on-Chip Architecture (ARM). The Examiner also rejected dependent Claims 2-20, on the basis of Parady in view of ARM and/or other prior art references.

It is an established principle that in order to establish a *prima facie* case of obviousness, each limitation of the claim in question must be taught or suggested in at least one of the references being relied upon.

In the current amendment, Claim 1 has been amended to more clearly define the invention. Specifically, Claim 1 has been amended by way of revisions to sub-paragraph (a) and the replacement of previous sub-paragraphs (f) and (g) with new sub-paragraphs (f), (g), and (h). For convenient reference, sub-paragraphs (a), (f), (g), (h), in accordance with the current amendment, are repeated below:

- (a) *a multiple-bit, multithread processor core comprising a single processor pipeline having 'k' pipeline stages shared by one or more independent processor threads, the number 'k' being equal to at least four, and the number 'n' of said processor threads being equal to or less than "k";*
- (f) *each of the 'n' program threads occupies a unique pipeline stage at any given time;*
- (g) *each program thread advances to the next pipeline stage with every clock cycle; and*
- (h) *for a given program thread, the pipeline completes a one-word instruction every 'k' clock cycles.*

As discussed during the undersigned agent's telephone interview with the Examiner on March 1, 2006 (in the company of Mr. Jason Gosior [a named inventor] and Mr. Ryan Northcott, both of whom are electrical engineers with the Assignee, Eleven Engineering Inc.), these

amendments clarify that in the processor of the present invention, program threads progress through the pipeline in "lock step", with there being one program thread in each pipeline stage at any given time, and thread execution time is predictable because each thread advances to the next pipeline stage with each clock cycle. In contrast, the processor taught by Parady assigns program threads to one or more functional units, depending on context. Each functional unit may be implemented using an independent pipeline, and at any given time one or more functional units are occupied by different program threads. With the architecture of Parady, thread execution times are variable from one stage to another, and therefore program execution times are not predictable, or at least not with the precision inherent in the processor of the present invention.

In accordance with the foregoing remarks, Applicants respectfully submit that the limitations of new sub-paragraphs (f), (g), and (h) are not taught or suggested by Parady or by any other prior art reference of record. Accordingly, Applicants submit that the current amendments overcome the obviousness rejections in the Non-Final Action with respect to Claim 1, and that Claim 1 as currently amended is therefore allowable. Since the remaining claims of record (Claims 2-20) are all dependent either directly or indirectly from Claim 1, it follows that they are allowable as well.

**2. No New Matter**

It is submitted that the proposed amendments will introduce no new matter. All subject matter defined in the claims as currently amended was expressly described in or is reasonably inferable from the originally-filed specification, claims, abstract, and/or drawings.

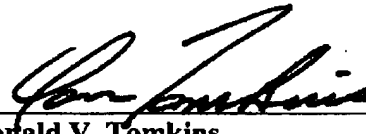
**3. Interview Summary**

The undersigned agent acknowledges receipt of the Interview Summary mailed March 7, 2006 in connection with the aforementioned telephone interview on March 1, 2006. The undersigned agent also confirms his understanding, based on a telephone discussion with the Examiner of March 2, 2006, that it will not be necessary to provide a written statement as to the substance of the March 1, 2006 interview for purposes of the present reply. Having carefully reviewed the Interview Summary, however, the agent believes that the substance of the interview set out in the Interview Summary represents a complete and proper recollection of the interview.

**D. CONCLUDING REMARKS**

Applicant respectfully submits that the amendments presented herein have fully addressed all issues raised in the Non-Final Action, and that the application will be in condition for allowance upon entry of the amendments. Accordingly, Applicant requests timely issuance of a Notice of Allowance.

Respectfully submitted on behalf of the  
Applicants, by their agent:



**Donald V. Tomkins**  
Registration No. 48,206  
Customer No. 31209

c/o TOMKINS LAW OFFICE  
Suite 740, 10150 - 100 Street  
Edmonton, Alberta, CANADA  
T5J 0P6

Telephone: (780) 424-2200  
Facsimile: (780) 424-2205

E-mail: [dtomkins@tomkinslaw.ca](mailto:dtomkins@tomkinslaw.ca)

Enclosures:

1. Petition for three-month extension [1 page]; and
2. Credit Card Payment Form PTO-2038 [1page].